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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/593,288

09/18/2006

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EXAMINER

JAHAN, BILKIS

ART UNIT

PAPER NUMBER

2814

MAIL DATE

DELIVERY MODE

09/18/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/593,288	WATANABE ET AL.	
	Examiner	Art Unit	
	BILKIS JAHAN	2814	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 7-8, 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Uemura (US 6,331,450 B1).

Regarding claim 1, Uemura discloses a transparent positive electrode 113 (Fig. 1, col. 5, lines 15-16) for gallium nitride-based compound (Fig. 1, col. 4, lines 40-41) semiconductor light-emitting devices (Fig. 1, col. 4, lines 40-41), comprising:

- ❖ a contact metal layer 111 (Fig. 1, col. 5, lines 10-11) in contact with a p-type semiconductor layer 106 (Fig. 1, col. 4, line 57),
- ❖ a current diffusing layer 112 (Fig. 1, col. 5, line 13-14) on the contact metal layer 111 (Fig. 1, col. 5, lines 10-11), the current diffusing layer having an electrical conductivity larger than that of the contact metal layer (inherent since materials are same), and
- ❖ a bonding pad layer 320 (Fig. 4B, col. 8, line 28) on the current diffusing layer 112 (Fig. 1, col. 5, line 13-14) .

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Regarding claims 2, 3, Uemura further discloses the contact metal layer is a platinum group metal 111 (Fig. 1, col. 5, lines 10-11) or an alloy containing a platinum group metal and the contact metal layer is platinum 111 (Fig. 1, col. 5, lines 10-11).

Regarding claims 7, 8, Uemura further discloses limitations in claim 1 but does not disclose the current diffusing layer 112 (Fig. 1, col. 5, line 13-14) is a metal selected from the group consisting of gold 112 (Fig. 1, col. 5, line 13-14), silver and copper, or an alloy containing at least one member of gold, silver and copper and the current diffusing layer is gold 112 (Fig. 1, col. 5, line 13-14).

Regarding claim 12, Uemura further discloses a gallium nitride-based compound semiconductor light-emitting device comprising the transparent positive electrode 310 (Fig. 4A, col. 7, lines 64-65) according to any one of claim 1 to 11.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 4-6, 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uemura (US 6,331,450 B1).

Regarding claim 4-6, 9-11, Uemura discloses limitations in claim 1 but does not disclose the transparent positive electrode according to any one of claims 1 to 3, wherein the thickness of the contact metal layer is from 0.1 to 7.5 nm; the thickness of the contact metal layer is from 0.1 to 5 nm; wherein the thickness of the contact metal layer is from 0.5 to 2.5 nm; the thickness of the current diffusing layer is from 1 to 20 nm; the thickness of the current diffusing layer is from 1 to 10 nm; the thickness of the current diffusing layer is from 3 to 6 nm. However, it would have been obvious to one of ordinary skill in the art to **use any suitable thickness for the device**, because it has been held that where the general conditions of the claims are disclosed in the prior art, it is not inventive to discover the optimum or workable range by routine experimentation. See *In re Alner*, 220 F.2d 454, 105 USPQ 233, 235 (CCPA 1955).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BILKIS JAHAN whose telephone number is (571)270-5022. The examiner can normally be reached on M-F, 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571)-272-1705. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Wai-Sing Louie/
Primary Examiner, Art Unit 2814

BJ